

**HYDROPORUS ADELARDI, A NEW DYTISCID OF THE *VILIS*
GROUP FROM CALIFORNIA (COLEOPTERA: DYTISCIDAE)**

RICHARD A. ROCHETTE

Department of Biology, New Mexico State University, Las Cruces, New Mexico 88003.

Abstract.—*Hydroporus adelardi*, n. sp., is described and the aedeagus illustrated. The types were collected from a winter rain pool and from a pond, both in wooded areas, in Mendocino County, California. This new species raises the number of nominal species in the *vilis* group from 22 to 23.

Fall (1923) first distinguished the *vilis* group in his revision of the Nearctic *Hydroporus* and *Agaporus*. At that time he recognized eight species in this group. Excluding problems of synonymy which still remain to be worked out, the addition of *H. adelardi* raises the number of nominal species in the *vilis* group from 22 (Rochette, *in press*) to 23 in North America, including Mexico.

***Hydroporus adelardi* Rochette, NEW SPECIES**

Figs. 1, 2

Diagnosis.—This species will key to couplet 5 in Fall's (1923) revision and is most similar to *H. planiusculus* Fall. Both species are elongate oval, parallel sided, and distinctly depressed, but the punctation on the pronotum and elytra is large in *H. adelardi* in comparison to *H. planiusculus* which is finely punctate. Comparable punctation can be seen in *H. bidesoides* Leech and *H. barbarae* Fall, but *H. adelardi* can be separated from the former by its much larger size (measurement of total length, $N = 20$: *H. bidesoides*, $\bar{x} = 2.39 \pm .07$ mm; *H. adelardi*, $\bar{x} = 3.39 \pm .10$ mm) and from the latter by its depressed form. Also, the aedeagus of *H. adelardi* is bifid whereas it is simple in both *H. bidesoides* and *H. barbarae*.

Description.—Holotype male: Length 3.31 mm; width 1.60 mm. Form elongate-oval, parallel sided, distinctly depressed and elytra heavily punctated; head light reddish brown, pronotum and elytra dark reddish brown; prosternal process small; posterior margins of metatrochanter and femur in line with each other. *Head*: Evenly microreticulate; finely punctate, the punctures separated roughly by 1-6 \times their diameter. *Pronotum*: Microreticulation as on head; punctation larger than that on head, those on disc separated roughly by 1-4 \times their diameter becoming coarser along apical, basal, and lateral margins; lateral pronotal bead uniformly thick, with very fine scattered punctures. *Elytra*: Microreticulation as on pronotum and head; punctures large, dense and elongate, evenly distributed along length of elytra with very fine punctures scattered in between; no sutural stria of coarse punctures present, pubescence not conspicuous. *Venter*: Prosternal process small, with setae; pro- and mesotarsal segments dilated, more so than in female, adhesion plates (pallettes) prominent, 2-2-2 in configuration; protibia of



Figs. 1, 2. *Hydroporus adelardi*, aedeagus. 1, Lateral view (286 \times). 2, Dorsal view (280 \times).

male unmodified; metasternum wrinkled in appearance, irregularly microreticulate, most meshes elongate, more so where metasternum meets coxae, punctation coarse, irregularly spaced; epipleura coarsely punctate; metatrochanter and femur with very fine, sparse punctation; row of setae on face of femur toward anterior edge, beginning $\frac{2}{3}$ the distance from anterior tip of femur progressing posteriorly to tip; abdominal segments wrinkled in appearance toward lateral edges, punctation coarse, microreticulation not as strong as on metasternum, setae present. *Genitalia*: Aedeagus bifid, parameres triangular in shape (Figs. 1, 2). *Color*: Antenna and head light reddish brown; pronotal disc and elytra dark reddish brown, with pronotal disc appearing slightly darker, outer margins of pronotum becoming progressively lighter, similar to head in color; venter dark reddish brown, similar to elytra; epipleura, underside of head, palps, and legs light reddish brown.

Allotype female: Length 3.31 mm; width 1.63 mm. Similar to male in all aspects, except pro- and mesotarsal segments not dilated and without adhesion plates (pallettes).

Types.—Holotype δ and allotype ♀ : CALIFORNIA: Mendocino Co., 3 mi. N. Mendocino behind Helfer ranch, winter rain pool in woods, 9-IV-66, H.B. Leech [CAS]. Paratypes: CALIFORNIA: same data as for holo- and allotype [CAS] (51). Caspar, 15-II-48, pond in woods, H. B. Leech [CAS] (1). Specimens have been deposited in the following institutions: Holo- and allotype and 44 paratypes at the California Academy of Sciences; 2 paratypes (1 δ , 1 ♀) each at New Mexico State University, National Museum of Natural History, Smithsonian Institution, University of New Hampshire, and author's collection.

Natural history notes.—Specimens were taken from only two places, a winter rain pool and a pond, both in wooded areas.

Distribution.—This species is only known from Mendocino County, California.

Etymology.—This species is named for my father, Adelard Lucien Rochette.

ACKNOWLEDGMENTS

I thank the following for their assistance: John A. Wallwork for his criticism of this manuscript, and for the many enjoyable discussions we have had; Henry

P. Adams of the New Mexico State University Electron Microscope Laboratory for preparation of the SEM photographs; and Valerie Torres for typing this manuscript.

LITERATURE CITED

- Fall, H. C. 1923. A revision of the North American species of *Hydroporus* and *Agaporus*. Privately publ. 129 pp.
- Rochette, R. A. *In press*. A preliminary checklist of the *Hydroporus vilis* group with a key to the species groups of the genus *Hydroporus* (Coleoptera: Dytiscidae). *Coleopt. Bull.*

PROC. ENTOMOL. SOC. WASH.
85(4), 1983, p. 736

BOOK REVIEW

Sunflower Species of the United States. By Charlie E. Rogers, Tommy E. Thompson, and Gerald J. Seiler. National Sunflower Assn., Bismarck, North Dakota. (iv), 95 pp. Cost: Hardcover \$12.95, softcover \$9.95.

Many entomologists, especially those who study insects that feed upon plants, must use works that deal with the plants used by their insects. In working on a genus of two-winged flies, some species of which feed upon sunflowers (*Helianthus* species), I had occasion to peruse the work here reviewed. It is well illustrated with color photographs, some of which are, however, so small and indistinct as to be of little use. There is no key to species, and the bibliography ("suggested reading") cites only six items. Each species of sunflower is treated with a paragraph giving its characteristics, but inasmuch as *Helianthus* includes 52 species, most of which are quite similar, I must still use the revision by Heiser et al. (1966, *Mem. Torrey Bot. Club*, vol. 22, no. 3, 218 pp.) in order to be reasonably certain of my determinations.

There are 20 maps (Pls. 1–20) showing distribution of the species of *Helianthus*. Plates 12, 13, 15, and 16 each show the distribution of 2 to 4 species on the same map. Much of the areas overlap and details of the presentation make the maps very confusing. Plate 16, furthermore, does not agree very closely with Map 31 in Heiser et al., for *Helianthus grosseserratus*.

An appendix contains tables on cross compatibility of some of the sunflower species; oil content and free fatty acid composition of selected species; relative resistance of selected species to four species of insect pests; growth, habitat data, and survival status; and distribution of sunflower species by States. Each species is given a vernacular name as well as its botanical name.

All in all, I would say that the work is of very limited use to an entomologist or a botanist, but it may be of considerable value by virtue of the appendix to those interested in the use of sunflowers, but of that I cannot judge.

George C. Steyskal, *Cooperating Scientist, Systematic Entomology Laboratory, IIBIII, Agricultural Research Service, USDA, c/o National Museum of Natural History, Washington, D.C. 20560.*